

1 APPARATUS FOR, AND METHOD OF, RECEIVING SATELLITE
2 TELEVISION SIGNALS IN AN APARTMENT BUILDING AND
3 PROVIDING TELEVISION IMAGES IN THE RECEIVERS
4 IN SUCH BUILDING

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6 Abstract of the Disclosure

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8 Digital packets, defined by a sync byte and then 130 MPEG2 compressed
9 QPSK signal bytes, from a satellite transponder are reformatted prior to transmission to
10 television receivers in apartments in a building wired to distribute video signals. A side byte
11 between such sync and signal bytes in each packet indicates (a) any QPSK packet
12 uncorrectable error and (b) processing information which allows automatic reconfiguration
13 at the settop box. Additional FEC bytes correct to 8 errors within a MPEG2_{QPSK} packet. The
14 system removes the FEC bytes and reframes the MPEG2_{QPSK} packets into a superpacket by
15 converting a first number of the MPEG2_{QPSK} packets to a second number of MPEG2_{QAM}
16 packets. An added sync byte indicates the beginning of each such MPEG2_{QAM} packet. The
17 system adds side data bytes including any uncorrectable errors in each MPEG2_{QPSK} packet
18 and adds a new, less complicated FEC to each MPEG2_{QAM} packet. The system modulates

1 and upconverts the bytes in each MPEG2_{QAM} packet and passes them through a cable plant
2 constructed to receive modulated QAM bytes (or NTSC signals) which are demodulated at
3 the settop box. The additional FEC bytes correct to 8 errors within a MPEG2_{QAM} packet and
4 are then removed. The superpacket is deframed to obtain the MPEG2_{QPSK} packets. After
5 finding a television channel, the side bytes are processed to determine the frequency location
6 of the other channels in the apartment receivers and the existence of uncorrectable errors.
7 The MPEG2_{QAM} bytes are decompressed and encoded to reproduce the television images in
8 the apartment receivers.

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